The Changing Structure of Nonreal Estate Credit Markets

by Charles Dodson[1]

The availability of leasing and trade credit from nontraditional lenders is changing the structure of farm nonreal estate credit markets. For commercial-sized farms, nontraditional lenders represent the second largest source of debt. Leasing of machinery and equipment is prevalent, especially among crop farms where 20 percent of all commercial-sized farms reported leasing machinery or equipment. The combination of leasing and trade credit is enabling nontraditional lenders to capture market share from traditional lenders. This is especially true for debts of under $50,000 where nontraditional lenders have a cost advantage. Eighty percent of commercial-sized farms with nonreal estate trade credit owed less than $50,000 of nonreal estate debt. Leasing and trade credit were more prevalent in the Midwest and less common in the South.

The environment for financing production agriculture has been undergoing dramatic change in recent years. An increase in the use of trade credit and *nontraditional lenders* along with increased incidence of machinery leasing has heightened the competition *traditional lenders* face in agricultural credit markets. In addition, the ongoing industrialization of U.S. agriculture will likely spur borrowers to change the way they conduct their business and how they relate to lenders. These trends will likely continue and force traditional lenders to adapt new marketing approaches or face significant losses in loan volume. Structural changes in credit markets can also affect Federal credit programs such as those delivered by USDA's Farm Service Agency. This article examines the structural differences between farms that use machinery leasing or manufacturer or dealers financing and comparable farms that do not. Explanations as to why farm operators are choosing nontraditional lenders will be discussed.

Historically, nonreal estate credit markets have been characterized by long term relationships between farmers and lenders. The bank or Farm Credit System association would provide an operating loan and other financing using a security agreement covering the farm's machinery and equipment. Recently, there has been a noticeable increase in the incidence of agricultural input suppliers providing credit to farm operators, suggesting a change in this type of lender-borrower relationship. The impacts of the changing structure of agricultural credit markets are most evident for debt secured by nonreal estate assets where manufacturers and dealers have secured a 16-percent market share among *commercial-sized farms* (figure A-1). In contrast, trade credit represented only 2 percent of operating debt outstanding at year-end. During 1988-93 there was rapid growth in the number of farm input suppliers offering credit and volume of supplier credit extended. These nontraditional lenders doubled, tripled, or even quadrupled the volume of credit extended (Sherrick et al). Additionally, farm operators are using leasing to control assets. This has always been common in real estate but is gaining increasing popularity among nonreal estate assets. Among commercial-sized farms operated by farmers under 40 years old, 20-22 percent have reported leasing some machinery (Dodson and Koenig).

Data and Methods

Farm-level financial data were provided by the expenditure version of USDA's Farm Cost and Returns Survey (FCRS). The FCRS is a multiple frame stratified random sampling survey that provides farm expense, income, and balance sheet estimates along with operator characteristics for a calendar year. Estimates discussed represent averages of combined year end data for 1991-93. The averaging of 3 years of data was done to increase the reliability of estimates. The expenditure version was the only one that included detailed data on debt. Data were collected on each loan owed by a farm business. Included was year-end balance, interest rate, year loan was acquired, lender, term, and loan type (real estate, nonreal estate, or operating loans). The 1994 survey did not include detailed debt data, while 1995 data are not yet available. The FCRS samples roughly 10,000 farms annually, of which about half respond to the expenditure version of the questionnaire.

Leasing

Leasing has always been a popular method for nonfarm businesses to acquire operating capital. In contrast, farmers have historically relied on debt or owner equity to finance machinery and equipment. However, evidence from the FCRS shows that leasing of farm machinery and equipment is becoming popular among some farm operators. Among all commercial-sized farms, 15 percent reported leasing some nonreal estate assets (table A-1). Leasing was found to be more common on *crop farms*. Over 55 percent of farms with machinery leases were commercial crop farms. Among all commercial crop farms, 20 percent reported leases for machinery or equipment compared with 15 percent for *livestock farms* (FCRS). This is probably because structuring a lease for tractors, combines, and implements is much easier than for livestock or facilities. Because leasing is a substitute for debt and lessors are primarily manufacturers or dealers,

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Commercial-sized farms were defined as those that reported $50,000 or more of annual sales.

Crop farms received over 50 percent of the value of their farm production from crops while *livestock farms* received over 50 percent of their production from livestock.

Nontraditional lenders are defined as institutions whose primary contacts with farm operators have historically been for goods and services other than credit (i.e., input suppliers, machinery suppliers, cooperatives, processors, etc.). Because this study focuses on nonreal estate credit, these lenders are most likely to be implement dealers and financing corporations wholly owned by a manufacturer. For the purposes of this paper, nontraditional lenders are referred to as manufacturers and dealers.

Production regions:

Northeast = CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT
Midwest = IL, IN, IA, MI, MN, MO, OH, WI
Plains = KS, NE, ND, OK, SD, TX
South = AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV
West = AZ, CA, CO, ID, MT, NV, OR, NM, UT, WA, WY

Traditional lenders are defined as institutions whose traditional (historic) contact with farm operators was primarily to provide credit (ie., commercial banks, Farm Credit System, Insurance companies, USDA's Farm Service Agency).

Vulnerable farms were defined as reporting negative net farm income and debt-asset ratios of 0.40 or greater.

leasing will probably mean less farm loan business for traditional lenders.

Manufacturers provide leasing because it enhances the marketability of their product. While a lender would strive to maximize net interest income, a manufacturer would strive to maximize total revenues. If leasing allows manufacturers to differentiate their product, total revenues should increase. Farm operators may choose to lease machinery or equipment for any of a number of reasons. They may find that leasing is less costly than purchasing the equipment or that leasing provides more financial management options. If it costs less to process a lease than to process a loan, farm operators should find a lease to be less expensive than a loan. Also, leasing can increase a farm operator's rate of return or lessen the risk of technical obsolescence.

Advantages in asset disposal can enable a manufacturer to provide loan terms cheaper than for a purchase and finance arrangement. A manufacturer or dealer may be able to more easily resell reconditioned machinery or equipment or to salvage parts. A national manufacturer with many retail outlets may be able lease the same equipment more than once during a year. For example, a combine can be leased to a wheat farmer in Oklahoma during June and a Kansas or Nebraska wheat farmer in July. Partial-year leasing can make leasing very attractive to an operator. Why buy a tractor or combine that will sit idle for most of the year? A farm operator could lease a combine for 3 months of the year, externalize much of the cost and always have use of the latest technology.

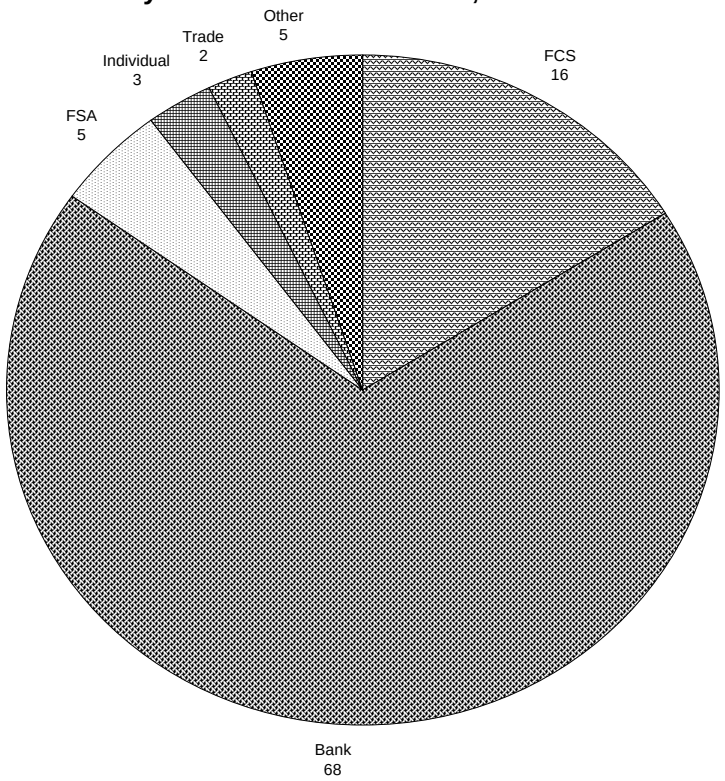
A greater concentration of commercial farms and dealers enhances a manufacturer's ability to sell leased equipment. Consequently, one would expect leasing to be more common in regions characterized by intensive crop production. Over one-half of the farms that lease machinery or equipment were located in the Midwest (table A-1). On average, 17 percent of all commercial farms in the Midwest leased at least some of their machinery and equipment, compared with only 7 percent in the South. However, there was no indication that the differences between the South and Midwest could be explained by crop mix because about one-half the commercial farms in each region were crop farms.

Financial management goals or limited financing options can also influence an operator's leasing decision. A farm operator may lease machinery and equipment in order to allocate wealth to other uses, such as land, or to maintain borrowing capacity. In some instances, operators may choose leasing as a last resort because their borrowing capacity has been exhausted. This may have been the case for farms that reported both nonreal estate debt and leases. These farms appeared to have used much of their borrowing capacity and were experiencing more financial stress. On these farms, the ratio of nonreal estate debt plus operating loans to nonreal estate assets was 43 percent (table A-1). Over one-third of these farms reported debt-asset ratios of 0.40 or greater and more were considered financially stressed (12 percent were *vulnerable* to financial failure). Also, one-third of the farms with leases and nonreal estate debt reported negative net farm incomes.

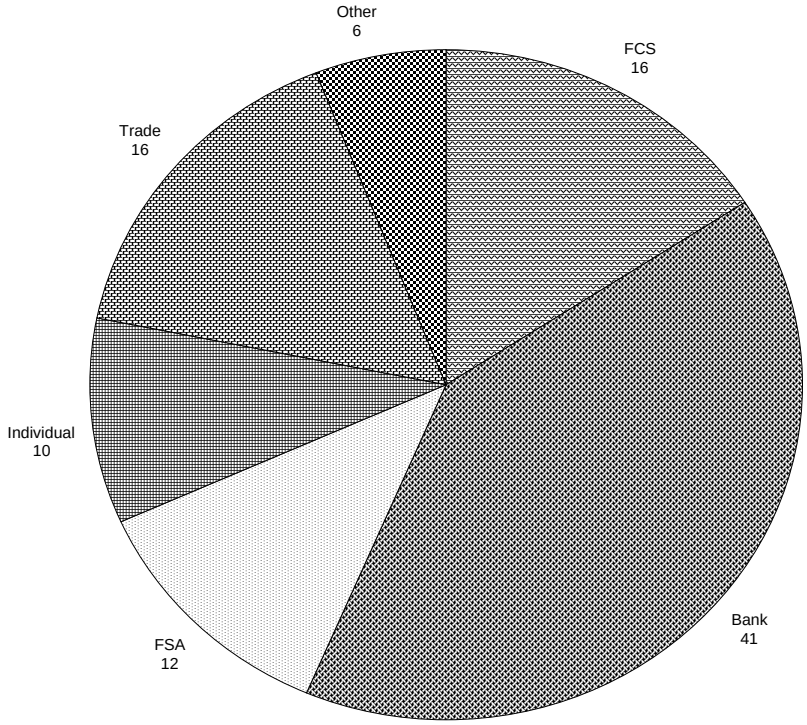
By using leasing, operators can generate higher rates of returns on owned assets which increases borrowing capacity. On average, farms that leased achieved returns on assets of over 3 percent, compared with 1.4 percent for commercial-sized farms that used nonreal estate debt only (table A-1). Another reason a farm operator may lease is that the technical life of an asset may be less than its useful life. With proper maintenance, machinery and equipment may last for 10 or more years, during which time more efficient models may become available. Lease terms can easily be structured to coincide with the technical life of the asset rather than its useful life. Somewhat related is a desire to externalize use and maintenance costs. Manufacturers have more incentive to

Figure A-1

Market shares by lender for operating and nonreal estate debt held by commercial-sized farms, FCRS 1991-93



Operating loans



Nonreal estate loans

Table A-1—Characteristics of commercial-sized farms for those with machinery leases, machinery leases and nonreal estate debt, nonreal estate debt only, those reporting no lease and no nonreal estate debt, and all commercial-sized farms.

	No debt no lease	Lease only	Lease w/debt	Debt only	All farms
Percent of farms	64	8	7	21	100
Total assets owned ($)	750,933	910,344	802,017	616,376	750,259
Total acres operated	1,289	1,325	1,122	1,072	1,245
Gross cash income ($)	183,913	297,483	323,890	178,935	206,930
Annual sales (percent of farms):					
$50-$100,000	46	28	27	38	42
$100-$250,000	36	41	41	44	39
$250-$500,000	11	18	19	12	12
Over $500,000	6	13	13	6	7
Regional-specializaton: (% of farms)					
Northeast	7	10	6	9	7
Midwest	38	44	53	42	40
Plains	22	23	21	23	22
South	19	9	8	14	17
West	14	15	11	11	14
Crop farms	48	57	55	49	50
Livestock farms	52	43	45	50	50
Debt-asset ratio	12	28	33	26	17
(Nonreal+operating. debt)/ nonreal assets	12	25	43	36	20
Vulnerable (% of total)	3	6	12	9	5
Return on assets (%)	2.7	3.3	3.0	1.4	2.6
Net f arm income ($)	40,824	46,189	43,228	27,941	39,473
NFI > $ 0 (% of farms)	78	74	67	74	76
Debt per farm ($):					
Operating loans	43,931	78,645	63,242	27,382	44,565
Nonreal estate	0	0	77,210	57,647	24,340
Real estate	97,962	158,796	107,781	64,186	95,515
Nonreal estate mkt shares:					
FCS	--	--	20	14	16
Banks	--	--	35	44	41
FSA	--	--	11	13	12
Manufacturer & dealer	--	--	18	15	16
Operator age	52	47	45	46	50
Under 36	10	17	17	22	14
36-45	23	28	42	32	27
46-55	24	30	26	24	24
56-65	28	18	12	16	23
Over 65 years	14	7	4	6	12

Source: 1991-93 Farm Costs and Returns Survey.

provide maintenance contracts on leases, keeping maintenance costs low for farm operators.

Empirical evidence shows that commercial-sized farms that reported machinery leases tend to be larger (based on assets owned, annual sales, and acres operated) than farms that reported no leasing activity (table A-1). Operators of many larger, financially sound farms appeared to choose leases over nonreal estate debt. Farms that leased but had no nonreal estate debt were substantially larger, owning over $150,000 more in farm assets than the typical commercial-sized farm. These farms were also financially stronger and probably could have obtained nonreal estate credit from a traditional lender. Thus, leasing must offer some advantages over credit to larger and more profitable operators.

Trade Credit

In addition to providing leasing terms, manufacturers and dealers can provide financing either directly or through a wholly owned subsidiary. Most major input suppliers such as John Deere, Ford New Holland, Wayne Feeds, and Pioneer Hi-Breeds have financing programs in place. As with leasing, the objective of trade credit is primarily to support machinery or equipment sales and to build sales volume or promote customer loyalty.

Manufacturers and dealers tend to incur lower costs than traditional lenders on loans under $50,000 (Henrickson and Boehlje). This provides a competitive advantage in financing single items that cost less than $50,000 such as tractors, trucks, or implements. Also, manufacturers often have access to low cost money through the issuance of commercial paper that enables them to provide loan terms that may be cheaper than conventional lenders. These aspects make it difficult for traditional lenders to effectively compete with trade credit in terms of cost. As a result, manufacturers and dealers have been capturing market share from traditional lenders.

For commercial-sized crop farms, manufacturers and dealers are the second largest provider of nonreal estate credit, controlling about one-fourth of the market (FCRS). The amount of manufacturer and dealer debt owed per farm is consistent with cost advantages for smaller loan sizes. Among farms with nonreal estate trade credit, nonreal estate debt per farm owed to manufacturers and dealers averaged $32,975. In comparison, farms with FCS nonreal estate debt averaged $79,814 per farm of FCS nonreal estate debt, while farms with bank nonreal estate debt averaged $52,828 of bank nonreal estate debt (FCRS). Eighty-percent of farms with nonreal estate trade credit reported less than $50,000 owed to manufacturers and dealers (figure A-2). However, smaller loan sizes do not imply a focus on smaller farms. Twenty-six percent of all manufacturer and dealer nonreal estate borrowers had over $250,000 in annual sales, compared to 17 percent for other borrowers (table A-2).

Manufacturers may be willing to accept lower returns from lending than traditional lenders if the lending operation increases sales. Thus, they may be more likely to provide credit to operators unable to obtain credit from traditional lenders because of high debt levels, low profitability, or operator age. This was supported by FCRS data showing that manufacturer and dealer borrowers tended to be less solvent than other comparable farms. Over 12 percent were classified as vulnerable compared with 8 percent of farms that borrowed from other lenders (table A-2). Also, farms with trade credit had greater debt levels, with an average debt-asset ratio of 0.29 compared to 0.10 for farms borrowing from other lenders. Manufacturer and dealer borrowers reported a ratio of nonreal estate debt plus operating loans to nonreal estate assets of 0.32 compared with 0.16 for all other farms with nonreal estate debt. Also, manufacturer and dealer borrowers were less profitable, reporting an average return on assets of 1.2 percent with almost one-third reporting negative incomes.

Nonreal estate trade credit tended to be more common among operators under 45 who are more likely to experience credit rationing. Sixty-one percent of manufacturer and dealer borrowers were under 45, compared with 37 percent of all other nonreal estate borrowers (table A-2). As with leasing, manufacturer and dealer credit may be providing an important public policy function by reducing the detrimental effects of credit rationing among traditional lenders. This is important given the reduced emphasis on FSA direct lending and a focus by FCS on more established operators (Koenig & Dodson). On the other hand, the easy availability of credit can encourage operators already financially stressed to become over-extended.

Farm operators seldom rely totally on the manufacturer or dealer for all their nonreal estate credit needs. On average, manufacturers and dealers provide 60 percent of the nonreal estate credit to their customers (FCRS). This compares with 84 percent for FCS, 81 percent for banks, and 78 percent for FSA. Because manufacturers and dealers are not full service lenders, it becomes especially important to maintain good relations with traditional lenders.

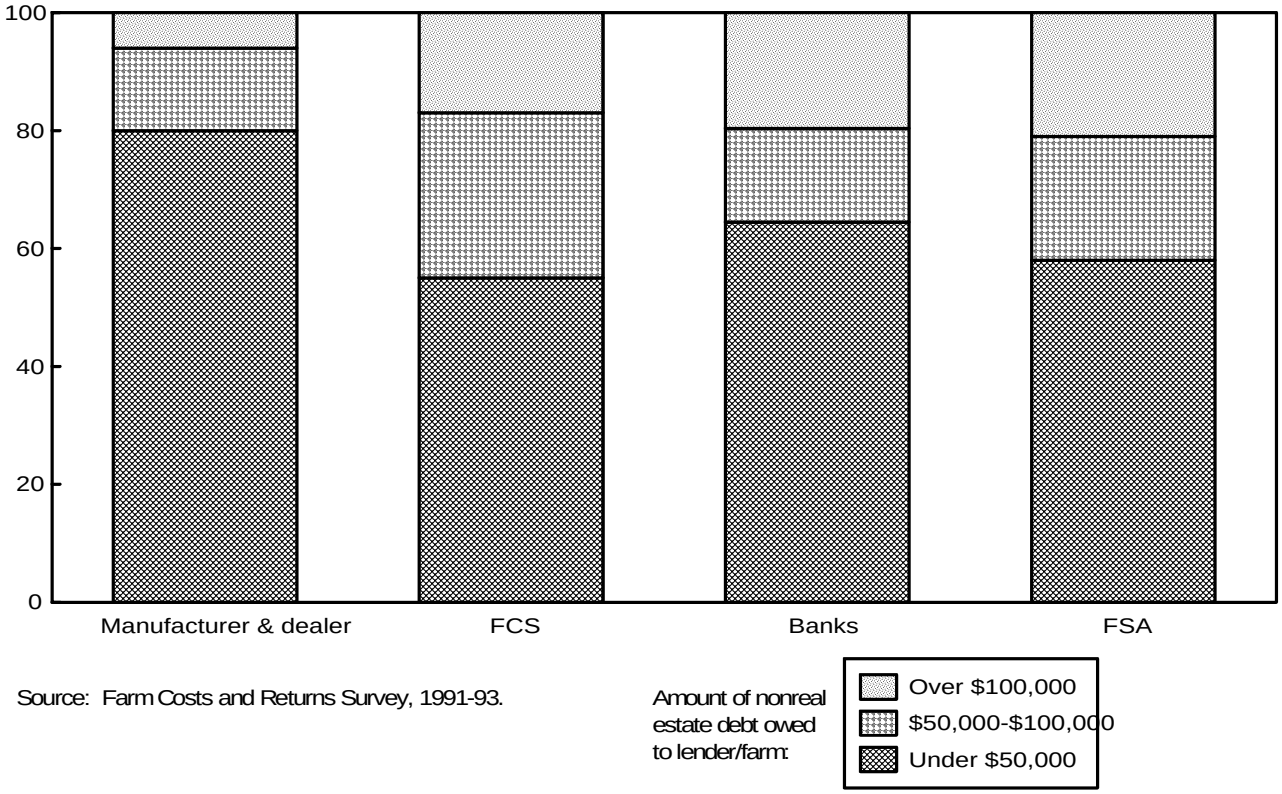
Manufacturers and dealer financing is, like leasing, more common among crop farms, with 61 percent of all manufacturer and dealer customers being crop farms (table A-2). Among crop farms, manufacturer and dealer market share was 24 percent, which is second only to banks. In contrast, manufacturer and dealer market share among livestock farms was only 8 percent. This may simply be a consequence of the type of inputs required by crop farms. Crop production requires tractors, combines, and various implements, all of which are produced by manufacturers with established credit programs. Conversely, many of the inputs required by livestock farms (feed, live animals) are produced on the farm.

As with leasing, manufacturer and dealer financing was more common in the Midwest and Plains. Combined, these regions include 75 percent of all manufacturer and dealer borrowers (table A-2). Manufacturers probably find that the greater concentration of dealers and commercial farms in these regions makes marketing easier.

There were some differences between lessees and manufacturer and dealer borrowers with respect to farm size and operator age. Commercial-sized farms that leased machinery were noticeably larger than average. In contrast, farms reporting nonreal estate trade credit more closely reflected the average size commercial farm. Operators using trade credit tended to be younger than average while those

Figure A-2

Of all commercial-sized farms with nonreal estate trade credit, 80 percent owed less than $50,000 to manufacturers and dealers



Source: Farm Costs and Returns Survey, 1991-93.

Table A-2—Characteristics of commercial-sized farms for those using nonreal estate trade credit, traditional lender nonreal estate credit, those with no nonreal estate debt, and all commercial-sized farms.

	Non-Trade	Trade	No nonreal debt	All farms
Percent of farms	49	8	43	100
Total assets owned ($)	758,391	712,904	748,134	750,259
Total acres operated	1,213	1,326	1,265	1,245
Gross cash income ($)	207,176	219,855	204,134	206,930
Annual sales (% of farms):				
$50-$100,000	43	29	42	42
$100-$250,000	39	46	37	39
$250-$500,000	10	17	14	12
Over $500,000	7	9	7	7
Regional-specializaton (% of farms):				
Northeast	9	6	6	7
Midwest	39	45	41	40
Plains	20	30	21	22
South	19	9	15	17
West	14	10	14	14
Crop farms	48	61	50	50
Livestock farms	51	39	50	50
Debt-asset ratio	10	29	22	17
(Nonreal+operating. debt)/ nonreal assets	16	32	22	20
Vulnerable (% of total)	4	12	6	5
Return on assets (%)	2.8	1.2	2.5	2.6
Net farm income ($)	44,389	29,326	35,771	39,473
NFI > $ 0 (% of total)	79	69	75	76
Debt per farm ($):				
Operating loans	32,106	44,822	50,080	44,565
Nonreal estate	65,817	52,246	0	24,340
Real estate	66,149	94,961	103,789	95,515
Nonreal estate mkt shares:				
FCS	19	7	--	16
Banks	49	19	--	41
FSA	14	8	--	12
Manufacturer & dealer	0	59	--	16
Operator age	51	44	49	50
Under 36	13	23	13	14
36-45	24	38	27	27
46-55	22	21	28	24
56-65	26	14	23	23
Over 65 years	15	4	9	12
Farms with mach. leases	9	27	18	15

Source: 1991-93 Farm Costs and Returns Survey.

using leasing were not. Outside of these characteristics, farms that lease and those that use manufacturer and dealers for nonreal estate credit are similar. Farms that reported both leases and nonreal estate debt were more likely to owe debt to manufacturers or dealers. A likely explanation for this similarity is that manufacturers and dealers frequently offer both of these options to their customers.

Impacts on Lenders

Because trade credit and leasing appear to be closely related, many of the implications for lenders are the same. In most cases trade credit and leasing appear to substitute for traditional financing. Most operators using machinery leasing or nonreal estate trade credit were financially strong and would be eligible for conventional financing. Thus, the availability of leasing and trade credit means there will be more competition and probably losses in loan volume for traditional lenders. Commercial banks stand to lose the most because of their concentration in the Midwest, their focus on smaller size loans, and their dependence on nonreal estate debt for loan volume. On the other hand, FCS stands to lose less, because of its focus on larger loans, regional diversity, and reliance on real estate loans for a majority of its loan volume. Both leasing and trade credit were most prevalent in the Midwest where banks dominate nonreal estate lending (table A-1; table A-2). The FCS tends to have a greater presence in the South where leasing and trade credit are less prevalent.

Cost advantages held by manufacturers and dealers for loans under $50,000 will have greater impacts for banks. Banks, as well as other lenders, face the risk of losing their customer base in this market. This is because manufacturers and dealers could supply most of the nonreal estate credit for farms with smaller loan demands. Manufacturers and dealers supply two-thirds of all nonreal estate credit when the amount owed them is less than $50,000 (FCRS). For these same farms, banks supply only 7 percent of nonreal estate debt. In contrast, manufacturer's and dealer's share of the nonreal estate market falls among borrowers who require more than $50,000. Among these farms, manufacturer and dealers supply 42 percent and banks supply over 50 percent of nonreal estate credit. The growth of leasing further contributes to bank's loss of the small loan market. Banks tend to compete with leasing on operations with less credit demand. On farms that reported both leases and bank debt, average bank nonreal estate debt was $56,500.

FCS is more heavily involved in financing large operations and larger loan sizes. Over one-third of the commercial-sized operators with FCS nonreal estate debt reported over $750,000 in farm assets, compared with 23 percent for all other lenders (FCRS). Consequently, FCS and manufacturers will likely face head-to-head competition for the credit business of larger farms. Manufacturers and dealers probably can not provide all of the nonreal estate capital needs for these larger farms. It is unlikely, therefore, that FCS would completely lose costumers to manufacturers and dealers, but it would probably lose loan volume. The sharing of customers by FCS and manufacturers will require that these institutions strive to maintain good relationships.

The availability of trade credit for nonreal estate assets and leasing not only affects private lenders but also public sector lenders such as USDA's Farm Service Agency (FSA) and programs delivered by State governments. Many of these programs have been enacted because of perceived problems caused by rationing or restraining credit to young, or financially stressed operators. However, leasing and trade credit appears to negate many of the effects of credit rationing, at least with respect to nonreal estate credit. There may be a need to reexamine how these programs are targeted. For example, FSA may need to target its nonreal estate loan funds to livestock operations or in regions other than the Midwest.

If traditional lenders choose to compete with manufacturers and dealers, they will need to find lower cost procedures for delivering smaller loans or provide a broader selection of services. Because of reduced market share or declines in overall loan volume, the FCS and banks may need to examine other markets. Lending for rural housing or nonfarm businesses provides viable alternatives for banks. However, smaller banks in isolated rural markets will be more adversely affected because alternative lending outlets may not exist. The fact that nontraditional lenders are more active among smaller loan sizes, crop farms, and farms in the Midwest, leaves market niches available to FCS and banks. The growth in leasing and nonreal estate trade credit is greatest in machinery markets such as tractors, combines, and implements. Hence, traditional lenders may want to orient themselves more toward financing of livestock or farm buildings. Because bank loans are more prevalent among livestock farms than crop farms (market shares of 47 versus 35 percent), banks will have an advantage in serving these groups. Traditional lenders may focus more of their marketing efforts in regions where manufacturers are less prevalent as a source of credit such as the South, Mountain, and Northeast.

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